

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the present application:

1. (Currently amended) A computer-implemented method for performing thread scheduling, the method comprising:

receiving thread objective data including a performance objective;
sampling a plurality of performance metric data points for each thread, wherein each data point varies as a function of scheduling quantum values;
calculating a new scheduling quantum value by processing the plurality of performance metric data points according to the performance objective; and
adjusting a current scheduling quantum value to the new scheduling quantum value.

2. (Currently amended) The computer-implemented method of claim 1, wherein sampling the plurality of performance metric data points includes sampling a performance metric value at predetermined scheduling quantum values.

3. (Currently amended) The computer-implemented method of claim 1, including using a sliding window to define a set of sampled performance metric data points

during real-time sampling, and calculating the new scheduling quantum value includes using the defined set of sampled performance metric data points.

4. (Currently amended) The computer-implemented method of claim 3, wherein the performance objective is to determine the new scheduling quantum value corresponding to a minimum of the set of sampled performance metric data points.

5. (Currently amended) The computer-implemented method of claim 3, wherein the performance objective is to determine the new scheduling quantum value corresponding to a maximum of the set of sampled performance metric data points.

6. (Currently amended) The computer-implemented method of claim 3, wherein the performance objective is to determine the new scheduling quantum value corresponding to an average of the set of sampled performance metric data points.

7. (Currently amended) A computer-implemented method for performing thread scheduling for multiple threads, the method comprising:

receiving thread objective data for a plurality of threads, including a performance objective for each thread of the plurality of threads;

sampling a plurality of performance metric data points for each thread of the plurality of threads, specific to a performance metric type ~~of each thread of the plurality of threads~~, wherein each ~~of the corresponding~~ performance metric data point[[s]] varies as a function of scheduling quantum values;

determining a new performance objective based upon the performance objective for each of the plurality of threads;

calculating a new scheduling quantum value by processing the plurality of performance metric data points for each thread according to the new performance objective; and

adjusting a current scheduling quantum value to the new scheduling quantum value.

8. (Currently amended) The computer-implemented method of claim 7, wherein the processing the plurality of performance metric data points for each thread according to the new performance objective includes combining each function corresponding to each thread's performance metric data points to produce a new performance metric function.

9. (Currently amended) The computer-implemented method of claim 7, wherein determining the new performance objective includes choosing a performance objective corresponding to a thread with a highest priority among the plurality of threads.

10. (Currently amended) A system, comprising:

a scheduling quantum optimizer device;

a thread metric module device to provide thread objective data including a performance objective to the scheduling quantum optimizer device; and

a performance collector module device to sample a plurality of performance metric data points for each thread and provide the performance metric data points to the scheduling quantum optimizer device, wherein each performance metric data point varies as a function of scheduling quantum values;

the scheduling quantum optimizer device to process the plurality of performance metric data points according to the performance objective to provide a new scheduling quantum value to a process manager device, wherein the process manager device is to adjust a current scheduling quantum value to the new scheduling quantum value.

11. (Currently amended) The system of claim 10, wherein to sample the plurality of performance metric data points, the performance collector module device is operable to sample a performance metric value at predetermined scheduling quantum values.

12. (Currently amended) The system of claim 10, wherein to process the plurality of performance metric data points, the scheduling quantum optimizer device is operable

to use a sliding window that defines a set of sampled performance metric data points during real-time sampling to calculate the new scheduling quantum value.

13. (Original) The system of claim 12, wherein the performance objective is to determine a scheduling quantum value corresponding to a minimum of the set of sampled performance metric data points.

14. (Original) The system of claim 12, wherein the performance objective is to determine a scheduling quantum value corresponding to a maximum of the set of sampled performance metric data points.

15. (Original) The system of claim 12, wherein the performance objective is to determine a scheduling quantum value corresponding to an average of the set of sampled performance metric data points.

16. (Currently amended) A system, comprising:

a scheduling quantum optimizer device;

a thread metric module device to provide thread objective data for a plurality of threads, including a performance objective for each of the plurality of threads to the scheduling quantum optimizer device; and

a performance collector module device to sample performance metric data points for each thread of the plurality of threads specific to a performance metric ~~type~~of each thread of the plurality of threads, wherein each of the ~~corresponding~~ performance metric data point[[s]] varies as a function of scheduling quantum values;

the scheduling quantum optimizer device to determine a new performance objective based upon the performance objective for each thread of the plurality of threads and to process the plurality of performance metric data points for each thread of the plurality of threads according to the new performance objective to provide a new scheduling quantum value to a process manager device, wherein the process manager device is to adjust a current scheduling quantum value to the new scheduling quantum value.

17. (Currently amended) The system of claim 16, wherein to process the plurality of performance metric data points for each thread according to the new performance objective, the scheduling quantum optimizer device is to combine each function corresponding to performance metric data points for each thread to produce a new performance metric function.

18. (Currently amended) The system of claim 16, wherein to determine the new performance objective, the scheduling quantum optimizer device is to select a

performance objective corresponding to the thread with a highest priority among the plurality of threads.

19. (Currently amended) A machine-accessible storage medium that provides instructions that, if executed by a machine, will cause the machine to perform operations comprising:

receiving thread objective data including a performance objective;

sampling a plurality of performance metric data points for each thread, wherein each data point varies as a function of scheduling quantum values;

calculating a new scheduling quantum value by processing the plurality of performance metric data points according to the performance objective; and

adjusting a current scheduling quantum value to the new scheduling quantum value.

20. (Currently amended) The machine readable storage medium of claim 19, wherein the instructions for executing the method to perform thread scheduling are coded into an operating system.

21. (Currently amended) The machine readable storage medium of claim 19, wherein the instructions for executing the method to perform thread scheduling are coded into a high level application.

22. (Currently amended) The machine readable storage medium of claim 21, wherein the high level application is layered above an operating system as a system service.

23. (Currently amended) The machine readable storage medium of claim 19, wherein sampling the plurality of performance metric data points includes sampling a performance metric value at predetermined scheduling quantum values.

24. (Currently amended) The machine readable storage medium of claim 19, including using a sliding window to define a set of sampled performance metric data points during real-time sampling, and calculating the new scheduling quantum value includes using the defined set of sampled performance metric data points

25. (Currently amended) The machine readable storage medium of claim 19, wherein the performance objective is to determine the improved scheduling quantum value corresponding to a reduced performance metric value.

26. (Currently amended) The machine readable storage medium of claim 19, wherein the performance objective is to determine the improved scheduling quantum value corresponding to an increased performance metric value.

27. (Currently amended) The machine readable storage medium of claim 19, wherein the performance objective is to determine the improved scheduling quantum value corresponding to an average performance metric value.

28. (Currently amended) A machine-accessible storage medium that provides instructions that, if executed by a machine, will cause the machine to perform operations comprising:

receiving thread objective data for a plurality of threads, including a performance objective for each of the plurality of threads;

sampling a plurality of performance metric data points for each thread of the plurality of threads, specific to a performance metric type ~~of each thread of the plurality of threads~~, wherein each of the performance metric data point[[s]] varies as a function of scheduling quantum values;

determining a new performance objective based upon the performance objective for each of the plurality threads;

calculating a new scheduling quantum value by processing the plurality of performance metric data points for each thread according to the new performance objective; and

adjusting a current scheduling quantum value to the new scheduling quantum value.

29. (Currently amended) The machine readable storage medium of claim 28, wherein processing the plurality of performance metric data points for each thread according to the new performance objective includes combining each function corresponding to each thread's performance metric data points to produce a new performance metric function.

30. (Currently amended) The machine readable storage medium of claim 29, wherein determining the new performance objective includes choosing a performance objective corresponding to a thread with a highest priority among the plurality of threads.

31. (Currently amended) A portable media device, comprising;

a memory module to store data;

a processor to access data stored in the memory module to receive thread objective data including a performance objective, to sample a plurality of performance metric data points for each thread, wherein each data point varies as a function of

scheduling quantum values, to process the plurality of performance metric data points according to the performance objective to calculate a new scheduling quantum value, and to adjust a current scheduling quantum value to the new scheduling quantum value; and

one of a battery and fuel cell to power the portable media device, including the processor and the memory.

32. (Currently amended) The portable media device of claim 31, wherein to process the plurality of performance metric data points, the processor is operable to use a sliding window that defines a set of sampled performance metric data points during real-time sampling to calculate the new scheduling quantum value.

33. (Original) The portable media device of claim 32, wherein the performance objective is to determine a scheduling quantum value corresponding to a minimum of the set of sampled performance metric data points.

34. (Currently amended) A portable media device, comprising;

a memory module;

a processor to access data stored in the memory module to receive thread objective data for a plurality of threads including a performance objective for each

thread of the plurality of threads, to sample a plurality of performance metric data points for each thread of the plurality of threads, specific to a performance metric type ~~of each thread of the plurality of threads~~, wherein each data point varies as a function of scheduling quantum values, to determine a new performance objective based upon the performance objective for each thread of the plurality of threads, to process the plurality of performance metric data points for each thread according to the new performance objective to calculate a new scheduling quantum value, and to adjust a current scheduling quantum value to the new scheduling quantum value; and

one of a battery and fuel cell to power the portable media device, including the processor and the memory.

35. (Currently amended) The system of claim 34, wherein to process the plurality of performance metric data points for each thread according to the new performance objective, the processor is to combine each function corresponding to performance metric data points for each thread to produce a new performance metric function.

36. (Original) The system of claim 34, wherein to determine the new performance objective, the processor is to select a performance objective corresponding to a thread with a highest priority among the plurality of threads.